RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _____

Source:

Date Processed by STIC:

ENTERED

CRF Errors Edited by the STIC Systems Branch

, Serial	Number: 10 575, 279 CRF Edit Date: 1267 Edited by:
	Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line
	Corrected the SEQ ID NO. Sequence numbers edited were:
	Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:
	Deleted: invalid beginning/end-of-file text; page numbers
	Inserted mandatory headings/numeric identifiers, specifically:
	Moved responses to same line as heading/numeric identifier, specifically:
	Other: deleted invalid Alpha Numeric LeAding Sy FOR Prior Application Number.



DATE: 01/26/2007

IFWO

PATENT APPLICATION: US/10/575,279 TIME: 09:30:36 Input Set : A:\pto.kd.txt Output Set: N:\CRF4\01262007\J575279.raw 3 <110> APPLICANT: The UAB Research Foundation Oomens, Tom 5 Megaw, Alexander Wertz, Gail 8 <120> TITLE OF INVENTION: RECOMBINANT VIRUSES WITH HETEROLOGOUS ENVELOPE PROTEINS 10 <130> FILE REFERENCE: 057909-012001 C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/575,279 C--> 12 <141> CURRENT FILING DATE: 2006-04-11 12 <150> PRIOR APPLICATION NUMBER: 60/588,379 13 <151> PRIOR FILING DATE: 2004-07-16 15 <150> PRIOR APPLICATION NUMBER: 60/528,214 16 <151> PRIOR FILING DATE: 2003-12-10 18 <150> PRIOR APPLICATION NUMBER: 10/262,238 19 <151> PRIOR FILING DATE: 2002-10-01 21 <150> PRIOR APPLICATION NUMBER: 60/397,289 22 <151> PRIOR FILING DATE: 2002-07-19 24 <150> PRIOR APPLICATION NUMBER: 60/326,259 25 <151> PRIOR FILING DATE: 2001-10-01 27 <160> NUMBER OF SEQ ID NOS: 4 29 <170> SOFTWARE: PatentIn version 3.2 31 <210> SEQ ID NO: 1 32 <211> LENGTH: 7 33 <212> TYPE: PRT 34 <213> ORGANISM: Autographa californica nucleopolyhedrovirus 36 <400> SEQUENCE: 1 38 Arg Asn Arg Asn Arg Gln Tyr 39 1 42 <210> SEQ ID NO: 2 43 <211> LENGTH: 15 44 <212> TYPE: PRT 45 <213> ORGANISM: Human respiratory syncytial virus 47 <400> SEQUENCE: 2 49 Ser Arg Arg Gln Leu Ser Gly Ile Asn Asn Ile Ala Phe Ser Asn 10 53 <210> SEQ ID NO: 3 54 <211> LENGTH: 574 55 <212> TYPE: PRT 56 <213> ORGANISM: Human respiratory syncytial virus 58 <400> SEQUENCE: 3 60 Met Glu Leu Leu Ile Leu Lys Ala Asn Ala Ile Thr Thr Ile Leu Thr 10

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25

RAW SEQUENCE LISTING

RAW SEQUENCE LISTING DATE: 01/26/2007 PATENT APPLICATION: US/10/575,279 TIME: 09:30:36

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RAW SEQUENCE LISTING DATE: 01/26/2007 PATENT APPLICATION: US/10/575,279 TIME: 09:30:36

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173		450					455		_			460	_			_	
176	Lys	Ser	Leu	Tyr	Val	Lys	Gly	Glu	Pro	Ile	Ile	Asn	Phe	Tyr	Asp	Pro	
	465			•		470	*				475			-	•	480	
180	Leu	Val	Phe	Pro	Ser		Glu	Phe	Asp	Ala		Ile	Ser	Gln	Val		
181					485					490					495		
	Glu	Lvs	Ile	Asn		Ser	Len	Ala	Phe		Ara	Lvs	Ser	Asn		Len	
185		-2-		500					505		5	-75		510			
	Leu	His	Asn		Asn	Δla	Glv	Lvs		Thr	Thr	Δen	Tle		Tle	Thr	
189			515				017	520				21011	525				
	Thr	Tle		Tle	Val	Tla	Tla		Tla	T.611	T.011	Cor		Tla	בומ	Val	
193		530	110	110	VUI	110	535	Val	116	пец	пец	540	пец	116	ліа	vai	
	Gly		T.011	T.011	ጥህን	Cvc		7.1 a	۸׫	C07	Thr		77-7	Thr	T 011	802	
	545	пец	пеп	пец	ıyı	550	цуѕ	ALA	Arg	ser	555	PIO	vai	TIII.	ьeu		
		7 00	C1 n	T 011	Co~		т1.	7 ~~	7 ~~	T1.		Dha	0	7		560	
	Lys	Asp	GIII	ьец	565	GIY	TTE	ASII	ASII		Ата	Pne	Ser	ASII			
201		0. 01	70 TI	. NO						570							
	4 <210> SEQ ID NO: 4 5 <211> LENGTH: 511																
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	Met	Lys	Cys	Leu		Tyr	Leu	Ala	Phe		Phe	Ile	Gly	Val		Cys	
212		_,			5		_	•	_	10	_		_	_	15	_	
	Lys	Pne	Inr		Val	Phe	Pro	His		GIn	Lys	GLY	Asn		Lys	Asn	
216		_	_	20	·	•			25					30			
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220		_	35					40	_	_	_		45				
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	225		_			230	_	_	_		235					240
	ьys	HIS	Trp	GLY		Arg	Leu	Pro	Ser		Val	Trp	Phe	Glu		Ala
272	7 am	T a	7 ~~	T 011	245 Dha	71-	77	7 J -	7	250	D	a 1	G	D	255	01
276	ASP	пуъ	Asp	260	PIIE	AIA	Ara	Ala	265	Pne	PIO	GIU	Cys	Pro 270	GIU	GIY
	Ser	Ser	Tle		Δla	Pro	Ser	Gln		Ser	Val	Δen	W=1	Ser	T.011	בוד
280	JCI	DCI	275	DCI	AIU	110	DCI.	280	1111	Ser	vaı	чэр	285	Ser	пец	116
	Gln	Asp		Glu	Arq	Ile	Leu		Tvr	Ser	Leu	Cvs		Glu	Thr	Trp
284		290					295	- · · · - <u>-</u>	- 2 -			300				
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288	305					310					315		_			320
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296	77-	D	- 1 -	340					345			_	~->	350	_,	_,
300	Ата	Pro	355	ьeu	ser	Arg	мет	760	GIY	Met	тте	Ser		Thr	Thr	Thr
	Glu	Δτα		T.011	מידים	λen	Δen		λla	Dro	Тагт	Glu	365	Val	Gl.,	Tlo
304	Ora	370	GIU	БСи	111	лор	375	пр	Ата	FIO	ıyı	380	тэр	vai	Giu	116
	Gly		Asn	Gly	Val	Leu		Thr	Ser	Ser	Glv		Lvs	Phe	Pro	Leu
	385			-		390					395	-	-			400
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320	7 02	Dro	435	~1	T 011	1707	~1	440	m	Db -	a	G	445	T	C	a
324	ASII	450	116	GIU	ьeu	vai	455	GLY	тър	Pne	ser	460	Trp	Lys	ser	ser
	Ile			Phe	Phe	Phe		Tle	Glv	T.e.ii	Tle		Glv	Leu	Phe	T.e11
328						470			Q ₁	#Cu	475	110	Cly	шец	1110	480
		Leu	Arg	Val	Gly		His	Leu	Cys	Ile		Leu	Lys	His	Thr	
332					485				-	490	•		_		495	_
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VERIFICATION SUMMARYDATE: 01/26/2007PATENT APPLICATION: US/10/575,279TIME: 09:30:37

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L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

Raw Sequence Listing before editing (for reference only)



DATE: 01/19/2007

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     4
             Oomens, Tom
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             Megaw, Alexander
             Wertz, Gail
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    10 <130> FILE REFERENCE: 057909-012001
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RAW SEQUENCE LISTING

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181 485 490 490 490 495 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490								_							_	_	
181 485 490 490 490 495 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490 490	180	Leu	Val	Phe	Pro	Ser	asp	Glu	Phe	Asp	Ala	Ser	Ile	Ser	Gln	Val	Asn
184 184 184 185 186 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185 185							-			-							
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192 Thr I le I le I le Val I le Val I le Val I le Leu Leu Leu Ser Leu I le Ala Val 193								011	_								
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197 545		~1		T 0	T	m	C		77.	7	0	mla aa		77- T	mb	T	C
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201			_	~3	_	_			_	_				_	_		560
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216	212	1				5					10					15	
219 Val Pro Ser Asn Tyr His Tyr Cys Pro Ser Ser Ser Asp Leu Asn Trp 220	215	Lys	Phe	Thr	Ile	Val	Phe	Pro	His	Asn	Gln	Lys	Gly	Asn	Trp	Lys	Asn
220	216				20					25		_	_		30	_	
220	219	Val	Pro	Ser	Asn	Tyr	His	Tyr	Cys	Pro	Ser	Ser	Ser	Asp	Leu	Asn	Trp
224 50						_		_	_					_			_
224 50	223	His	Asn	Asp	Leu	Ile	Gly	Thr	Ala	Ile	Gln	Val	Lys	Met	Pro	Lys	Ser
228 65				•			-						_			-	
228 65	227	His	Lvs	Ala	Ile	Gln	Ala	Asp	Glv	Trp	Met	Cvs	His	Ala	Ser	Lvs	Trp
231 Val Thr Thr Cys Asp Phe Arg Trp Tyr Gly Pro Lys Tyr Ile Thr Gln 95 232			-1						1							-1-	
232			Thr	Thr	Cvs	Asp		Ara	Trn	Tvr	Glv		Lvs	Tvr	Tle	Thr	
235 Ser Ile Arg Ser Phe Thr Pro Ser Val Glu Glu Cys Lys Glu Ser Ile 1036					-7-			5		-] -	_		-,-	-1-			
236		Sar	ΤlΔ	·Ara	Sar		Thr	Dro	Sor	Wal		Gln	Cve	Lare	Glu		Tla
239 Glu Gln Thr Lys Gln Gly Thr Trp Leu Asn Pro Gly Phe Pro Pro Gln 125		DCI	110	nr 9		FIIC	1111	FLO	Ser		GIU	GIII	Cys	цуз		DCI	116
240 115 126 120 125 125 125 127 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 1		C3.,	C15	The		C1 ~	~1	mb se	П		7.~~	D==0	a1	Dha		Dwo	~1 ~
243 Ser Cys Gly Tyr Ala Thr Val Thr Asp Ala Glu Ala Val Ile Val Gln 244 130		Gru	GIII		цуѕ,	GIII	GIY	1111		ьeu	ASII	PIO	СТУ		PIO	PIO	GIII
244		0	~		TT	77-	mla sa	17 7		3	37	a 3	37.		~ 1 _	*** 1	a 1
247 Val Thr Pro His His Val Leu Val Asp Glu Tyr Thr Gly Glu Trp Val 248 145		ser		GIY	Tyr	Ala	Thr		Thr	Asp	Ala	GIU		vai	тте	vai	GIN
248 145 150 155 160 251 Asp Ser Gln Phe Ile Asn Gly Lys Cys Ser Asn Tyr Ile Cys Pro Thr 252 165 170 175 255 Val His Asn Ser Thr Thr Trp His Ser Asp Tyr Lys Val Lys Gly Leu 256 180 185 190				_						_		_				_	
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252 165 170 175 255 Val His Asn Ser Thr Thr Trp His Ser Asp Tyr Lys Val Lys Gly Leu 256 180 185 190			_	-										_			
255 Val His Asn Ser Thr Thr Trp His Ser Asp Tyr Lys Val Lys Gly Leu 256 180 185 190		Asp	Ser	Gln	Phe		Asn	Gly	Lys	Cys		Asn	Tyr	Ile	Cys	Pro	Thr
256 180 185 190																	
		Val	His	Asn		Thr	Thr	${\tt Trp}$	His	Ser	Asp	Tyr	Lys	Val	Lys	Gly	Leu
259 Cys Asp Ser Asn Leu Ile Ser Met Asp Ile Thr Phe Phe Ser Glu Asp																	
	259	Cys	Asp	Ser	Asn	Leu	Ile	Ser	Met	Asp	Ile	Thr	Phe	Phe	Ser	Glu	Asp

RAW SEQUENCE LISTING DATE: 01/19/2007
PATENT APPLICATION: US/10/575,279 TIME: 16:41:43

Input Set : A:\Sequence Listing.ST25.txt
Output Set: N:\CRF4\01192007\J575279.raw

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	225	Pne	Ата	Tyr	GIU	230	GIĀ	GIY	Lys	Ala		Lys	Met	Gln	Tyr	_
	-	Hie	Trn	Glv	172 l		Len	Dro	Car	Cl v	235	Ттъ	Dho	Glu	Mot	240
272	275	*****	115	Gry	245	nr 9	neu	110	Ser	250	Val	ııp	riie	Giu	255	ALG
	Asp	Lys	Asp	Leu		Ala	Ala	Ala	Ara		Pro	Glu	Cvs	Pro		Glv
276	-	-	_	260					265				-1	270		1
279	Ser	Ser	Ile	Ser	Ala	Pro	Ser	Gln	Thr	Ser	Val	Asp	Val	Ser	Leu	Ile
280			275					280					285			
283	Gln		Val	Glu	Arg	Ile	Leu	Asp	Tyr	Ser	Leu	Cys	Gln	Glu	Thr	Trp
284	_	290			_	_	295					300				
		Lys	Ile	Arg	Ala		Leu	Pro	Ile	Ser		Val	Asp	Leu	Ser	
	305	7 J -	Dwa	T	7	310	~1	(T)	~1	D	315	D1	m1	-1-	-1-	320
291	Leu	Ald	PIO	ьуѕ	325	Pro	GIY	Thr	GIY	330	Ala	Pne	Inr	Ile		Asn
	Glv	Thr	Len	Lvs		Phe	Glu	Thr	Δra		Tla	Δra	Val	Asp	335	בות
296	OLY	1111	LCu	340	T Y L	rne	Giu	1111	345	TYL	116	Arg	vai	350	116	Ата
	Ala	Pro	Ile		Ser	Ara	Met	Val		Met	Ile	Ser	Glv	Thr	Thr	Thr
300			355			5		360	1				365			
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304		370					375					380				
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312	T	77-	~1 ~	77a 7	405	~1	77.5 -	D	TT 2	410	a 1	•			415	61
316	ьуѕ	Ald	GIII	420	Pne	GIU	HIS	Pro	H1S	тте	GIN	Asp	Ата	Ala 430	ser	Gin
	Leu	Pro	Asp		Glu	Ser	Len	Phe		Glv	Δsn	Thr	Glv	Leu	Ser	Lve
320			435	p	014	501	шси	440	1110	Gry	лър	1111	445	шец	DCI	цуз
	Asn	Pro		Glu	Leu	Val	Glu		Trp	Phe	Ser	Ser		Lys	Ser	Ser
324		450					455	•	*			460	_	- 2		
327	Ile	Ala	Ser	Phe	Phe	Phe	Ile	Ile	Gly	Leu	Ile	Ile	Gly	Leu	Phe	Leu
	465					470					475					480
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VERIFICATION SUMMARY

PATENT APPLICATION: US/10/575,279

DATE: 01/19/2007

TIME: 16:41:44

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L:12 M:270 C: Current Application Number differs, Replaced Current Application No L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date